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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TON, MINH TOAN T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,534

Applicant(s)

KIM ET AL.

Examiner

Toan Ton

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-71 is/are pending in the application.
4a) Of the above claim(s) 63-71 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 54-62 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 54-62, drawn to a liquid crystal display device, classified in class 349, subclass 69.
 - II. Claims 63-71, drawn to a method of manufacturing a liquid crystal display device, classified in class 349, subclass 187.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed in Group I can be made by another and materially different process other than the process recited in Group II.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

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3. Newly submitted claims 63-71 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the newly submitted 63-71 are directed to a method of manufacturing a liquid crystal display that was patentably distinct from the originally presented device/product claimed invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 63-71 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 54-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okibayashi (US 5504599) in view of Yokoyama et al (US 650379).

Okibayashi discloses a liquid crystal display (LCD) device comprising [see at least Figures 1(1) and 1(2)] and a method of manufacturing a liquid crystal display device: a first substrate 22 and a second substrate 21; an insulating layer 26/31a (inorganic material) on a first side (external side) of the first substrate; a light emitting structure including a light emitting layer on the insulating layer and disposed at least in a display region; a second insulating layer 29a/29b and a protective layer 27 formed over the entire surface of the light emitting structure; a common electrode (inherently) formed on a surface of the second substrate; a liquid crystal layer 21 sandwiched between the first and second substrates; the light emitting structure sharing the first

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substrate with the liquid crystal structure (within the same context as Applicant's, e.g., Figure 2 of the present invention).

Okibayashi discloses the light-emitting element including a first electrode 28, a light emitting element 30 and a second electrode 32.

Okibayashi discloses each substrate having a transparent electrode disposed thereon, wherein materials such as ITO (indium tin oxide) are common and known for advantages such as high transparency. Therefore, it would have been obvious to one ordinary skill in the art to employ materials such as ITO for its electrode for advantages such as high transparency.

The limitations not explicitly disclosed by Yokoyama are: organic light emitting element, the use of thin film transistors, the substrates performing polarization function, the first substrate in direct contact with the light emitting structure.

Yokoyama discloses a liquid crystal display device comprising: a liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates; an organic EL element comprising aluminum tris disposed outside the surface of one of the substrates and at least in a display region, the organic EL element comprising a dielectric multi-layer film 121, a transparent electrode 123, a reflecting electrode 126, a hole transport layer 124, an organic luminescent layer 125. Yokoyama discloses that such organic EL devices employing inorganic materials yield disadvantages such as high driving voltages (col. 1, lines 47-57). Therefore, it would have been obvious to one of ordinary skill in the art to employ organic EL element(s) for advantages such as low driving voltages.

The use of thin film transistors disposed on an inner side of the substrate is common and known in the art for several advantages such as cross-talk reduction. Therefore, it would have

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been obvious to one of ordinary skill in the art to employ thin film transistors for advantages such as cross-talk reduction.

The use of polarizing means is common and known in the art for advantages such as high contrast. Yokoyama discloses the device comprising a polarizer disposed on each of the substrates. It is known and a common goal in the art to minimize components, thus resulting in several advantages such as a thinner display, which is accomplished by eliminating extra layers. Forming a substrate and a polarizer as a single layer that perform the functions of both with only one layer. Therefore, it would have been obvious to one having ordinary skill in the art to combine the substrate and the polarizer into a single layer (that performs the functions of both) for several advantages such as thinner display.

It has been known in the art that gap(s) existing between layers yields disadvantages such as parallax effect, and thus it has been known in the art to art to minimize or eliminate such gap. Therefore, it would have been obvious to one of ordinary skill in the art to employ the substrate of the LCD panel in direct contact with the light emitting structure for advantages such as reducing parallax effect.

The use of an organic material (e.g., polycarbonate, polyimide) for the substrate is common and known in the art for several advantages such as high flexibility, lighter-device. Therefore, it would have been obvious to one having ordinary skill in the art to employ an organic material (e.g., polycarbonate, polyimide) for the substrate for several advantages such as high flexibility, lighter-device.

The use of color filters is common and known for achieving a color display device. Therefore, it would have been at least obvious to one having ordinary skill in the art at the time the invention was made to employ color filters for achieving a color display device.

The use of other light emitting structures such as LED is at least an obvious (i.e., not distinct) variation to one of ordinary skill in the art at the time the invention was made.

The use of a black matrix in a liquid crystal display device is common and known for achieving advantages such as good resolution. Therefore, it would have been at least obvious to one having ordinary skill in the art at the time the invention was made to employ a black matrix for advantages such as good resolution.

Response to Arguments

6. Applicant's arguments filed 02/21/06 have been fully considered but they are not persuasive.

Applicant asserted that prior art of record fails to disclose an inorganic insulating layer on a first side of a first substrate, a light-emitting element including an organic light-emitting layer on the inorganic insulating layer.

Okibayashi discloses a liquid crystal display device comprising [see at least Figures 1(1) and 1(2)]: an insulating layer 26/31a (made of inorganic material) on a first side (external side) of the first substrate; a light emitting structure including a light emitting layer on the insulating layer. Yokoyama discloses a liquid crystal display device comprising an organic EL element comprising aluminum tris disposed outside the surface of one of the substrates and at least in a display region, the organic EL element comprising a dielectric multi-layer film 121, a transparent

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electrode 123, a reflecting electrode 126, a hole transport layer 124, an organic luminescent layer 125. Yokoyama discloses that such organic EL devices employing inorganic materials yield disadvantages such as high driving voltages (col. 1, lines 47-57). Therefore, it would have been at least obvious to one of ordinary skill in the art at the time the invention was made to employ an organic EL element(s) for achieving advantages such as low driving voltages.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 16, 2006


TOANTON
PRIMARY EXAMINER